

## BEST AVAILABLE COPY

### Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

- 1 1. (Currently Amended) A method of forming a plurality of two-way ~~radiation~~-beams using a  
2 transmit and receive system, the method comprising:  
3       controlling a transmit antenna array of the transmit and receive system to provide a  
4 plurality of transmit ~~radiation~~-beams;  
5       simultaneously forming a first plurality of receive beams via a beamformer network;  
6       controlling a switched beam combining circuit of a receive antenna array of the transmit  
7 and receive system to form a second plurality of receive ~~radiation~~-beams wherein the controlling  
8 comprises combining selected ones of the formed beams via a switch network; and  
9       combining predetermined ones of the plurality of transmit beams and predetermined ones  
10 of the second plurality of receive beams to form the plurality of two-way ~~radiation~~-beams.
- 1 2. (Currently Amended) The method of claim 1, wherein controlling the transmit antenna array  
2 includes controlling a beam switching system coupled to the transmit antenna array to provide  
3 the plurality of transmit ~~radiation~~-beams.
- 1 3. (Currently Amended) The method of claim 1, wherein controlling the switched beam  
2 combining circuit of the receive antenna array includes controlling a plurality of single-pole,  
3 multi-throw switches ~~beam combining system coupled to the receive antenna array~~ to provide the  
4 second plurality of receive ~~radiation~~-beams.
- 1 4. (Currently Amended) The method of claim 1, wherein combining includes combining a first  
2 transmit ~~radiation~~-beam of the plurality of transmit ~~radiation~~-beams with a first at least one of the  
3 second plurality of receive ~~radiation~~-beam of the plurality of receive ~~radiation~~-beams to provide a  
4 first one two-way radiation beam of the plurality of two-way ~~radiation~~ beams.

1 5. (Currently Amended) The method of claim 4, wherein combining further includes combining  
2 the first transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with a second  
3 receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a second one~~two~~-  
4 way ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 6. (Currently Amended) The method of claim 5, wherein combining further includes combining  
2 a second transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with the second  
3 receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a third two-way  
4 ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 7. (Currently Amended) The method of claim 6, wherein combining further includes combining  
2 the second transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with a third  
3 receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a fourth two-way  
4 ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 8. (Currently Amended) The method of claim 7, wherein combining further includes combining  
2 the second transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with a fourth  
3 receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a fifth two-way  
4 ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 9. (Currently Amended) The method of claim 8, wherein combining further includes combining  
2 a third transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with the fourth  
3 receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a sixth two-way  
4 ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 10. (Currently Amended) The method of claim 9, wherein combining further includes  
2 combining the third transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with a  
3 fifth receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide a seventh two-  
4 way ~~radiation-beam~~ of the plurality of two-way ~~radiation-beams~~.

1 11. (Currently Amended) The method of claim 10, wherein combining further includes  
2 combining the third transmit ~~radiation-beam~~ of the plurality of transmit ~~radiation-beams~~ with a  
3 sixth receive ~~radiation-beam~~ of the plurality of receive ~~radiation-beams~~ to provide an eighth two-

4 way ~~radiation~~-beam of the plurality of two-way ~~radiation~~-beams.

1 12. (Currently Amended) The method of claim 11, wherein combining further includes  
2 combining a fourth transmit ~~radiation~~-beam of the plurality of transmit ~~radiation~~-beams with the  
3 sixth receive ~~radiation~~-beam of the plurality of receive ~~radiation~~-beams to provide a ninth two-  
4 way ~~radiation~~-beam of the plurality of two-way ~~radiation~~-beams.

1 13. (Currently Amended) The method of claim 12, wherein combining further includes  
2 combining the fourth transmit ~~radiation~~-beam of the plurality of transmit ~~radiation~~-beams with a  
3 seventh receive ~~radiation~~-beam of the plurality of receive ~~radiation~~-beams to provide a tenth two-  
4 way ~~radiation~~-beam of the plurality of two-way ~~radiation~~-beams.

1 14. (Currently Amended) The method of claim 4, wherein combining further includes  
2 combining a second transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with the  
3 first receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a second two-  
4 way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 15. (Currently Amended) The method of claim 14, wherein combining further includes  
2 combining the second transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with a  
3 second receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a third two-  
4 way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 16. (Currently Amended) The method of claim 15, wherein combining further includes  
2 combining a third transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with the  
3 second receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a fourth two-  
4 way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 17. (Currently Amended) The method of claim 16, wherein combining further includes  
2 combining the third transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with a  
3 third receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a fifth two-

4 way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 18. (Currently Amended) The method of claim 17, wherein combining further includes  
2 combining a fourth transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with the  
3 third receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a sixth two-  
4 way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 19. (Currently Amended) The method of claim 18, wherein combining further includes  
2 combining the fourth transmit ~~radiation~~ beam of the plurality of transmit ~~radiation~~ beams with a  
3 fourth receive ~~radiation~~ beam of the plurality of receive ~~radiation~~ beams to provide a seventh  
4 two-way ~~radiation~~ beam of the plurality of two-way ~~radiation~~ beams.

1 20. (Currently Amended) A transmit and receive system comprising:  
2 a first array including a first plurality of antenna element disposed to provide a transmit  
3 antenna;  
4 a second array including a second plurality of antenna elements disposed to provide a  
5 receive antenna;  
6 a beam switching system coupled to the first array and being operative to form a plurality  
7 of transmit beams; and  
8 a beam combining system coupled to the second array and being operative to  
9 simultaneously form a plurality of receive beams, wherein predetermined one of the plurality of  
10 transmit beams and predetermined ones of the plurality of receive beams are combined to form a  
11 plurality of two-way beams.